

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: SWANZEY LAKE	Lake Area (ha):	47.31
Town: SWANZEY	Maximum depth (m):	16.2
County: Cheshire	Mean depth (m):	6.9
River Basin: Connecticut	Volume (m ³):	3271500
Latitude: 42°51' N	Relative depth:	2.0
Longitude: 72°18' W	Shore configuration:	1.39
Elevation (ft): 524	Areal water load (m/yr):	3.94
Shore length (m): 3400	Flushing rate (yr ⁻¹):	0.60
Watershed area (ha): 414.4	P retention coeff.:	0.70
% watershed ponded: 0.0	Lake type:	natural

BIOLOGICAL:

	15 January 1987	4 August 1986
DOM. PHYTOPLANKTON (% TOTAL) #1	ASTERIONELLA 67%	CHRYSOSPHAERELLA 45%
#2	TABELLARIA 22%	DINOBRYON 30%
#3		ASTERIONELLA 15%
PHYTOPLANKTON ABUNDANCE (cells/mL)		965.0
CHLOROPHYLL-A (µg/L)		3.93
DOM. ZOOPLANKTON (% TOTAL) #1	KELLICOTTIA 80%	NAUPLIUS LARVAE 34%
#2	NAUPLIUS LARVAE 10%	KERATELLA 17%
#3	KERATELLA 4%	BOSMINA 14%
ROTIFERS/LITER	529	50
MICROCRUSTACEA/LITER	76	146
ZOOPLANKTON ABUNDANCE (#/L)	610	198
VASCULAR PLANT ABUNDANCE		Scattered
SECCHI DISK TRANSPARENCY (m)		4.5
BOTTOM DISSOLVED OXYGEN (mg/L)	3.6	0.2
BACTERIA (fecal col., #/100 ml) #1		10
#2		< 10
#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 6.0
Hypolimnion volume (m³): 460500

CHEMICAL:

Lake: SWANZEY LAKE
Town: SWANZEY

	15 January 1987		4 August 1986		
DEPTH (m)	5.0	10.0	2.0	8.0	13.0
pH (units)	6.6	6.5	7.0	6.8	6.4
A.N.C. (Alkalinity)	5.7	6.0	5.3	5.4	7.9
NITRATE & NITRITE NITROGEN	0.33	< 0.05	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.38	0.40	0.55	0.50	0.45
TOTAL PHOSPHORUS	0.008	0.015	0.004	0.011	0.019
CONDUCTIVITY (μ mhos/cm)	38.7	37.6	36.0	35.7	38.8
APPARENT COLOR (cpu)	15	16	5	10	25
MAGNESIUM			0.65		
CALCIUM			2.8		
SODIUM			2.2		
POTASSIUM			0.60		
CHLORIDE	2	3	3		3
SULFATE					
TN : TP	89	27	138		24
CALCITE SATURATION INDEX			3.1		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1986

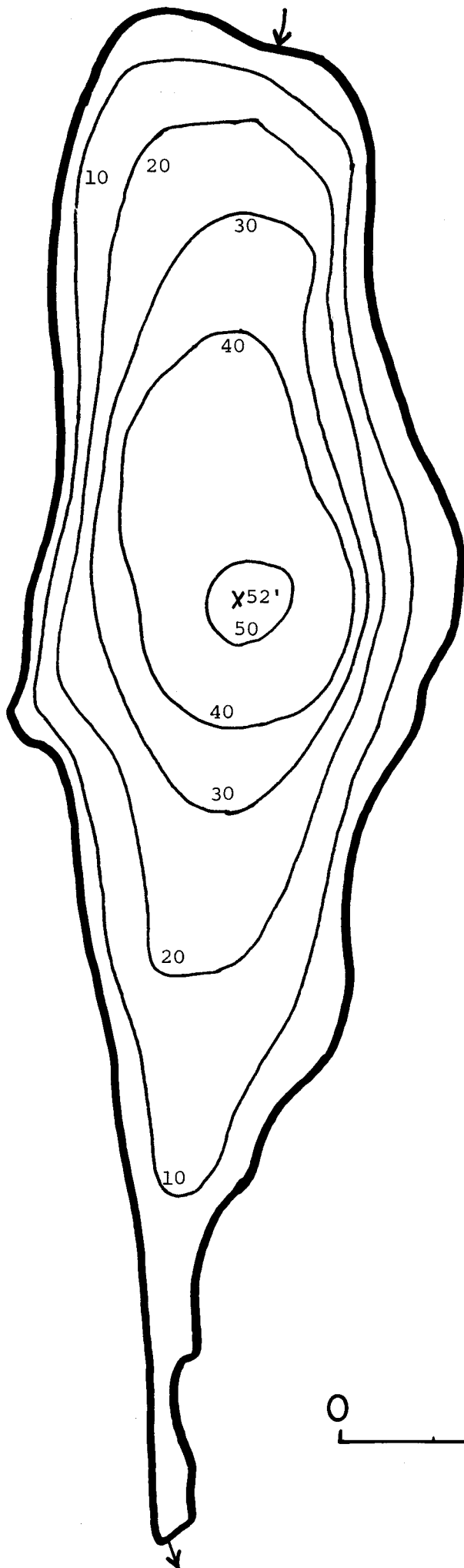
D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
6	1	1	0	8	Meso.

COMMENTS:

1. The maximum depth on the sounding map is 52 feet (15.8m); however, a depth of 16.2 meters was found during the winter sampling.
2. This lake was previously surveyed in 1977. It received 3 more trophic points in 1986 than in 1977, and that was enough to move it from oligotrophic to mesotrophic. The major change during the 10 year period was an increase in weed growth.
3. The whole-water phytoplankton was 35% blue-greens, 30% cryptomonads, and 20% greens. Dominant genera were Chroococcus (30%) and Chroomonas (20%).

SWANZEY LAKE

SWANZEY



Rough Bathymetric Chart
WSPCD - 1986
sounded by fathometer

10 foot isobaths

0 0.2 KM

FIELD DATA SHEET

LAKE: SWANZEY LAKE
DATE: 08/04/86

TOWN: SWANZEY
WEATHER: FAIR, PARTLY CLOUDY

	DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	25.8	8.5	100 %
	1.0	25.0	8.0	95 %
	2.0	24.8	7.1	83 %
	3.0	24.7	6.5	76 %
	4.0	24.2	6.5	76 %
	5.0	23.5	6.5	74 %
	6.0	19.1	8.0	86 %
	7.0	14.5	9.0	87 %
	8.0	11.8	9.0	81 %
	9.0	9.2	7.2	62 %
	10.0	8.0	3.8	31 %
	11.0	7.1	0.5	4 %
	12.0	7.0	0.0	0 %
	13.0	6.8	0.2	2 %
	14.0	6.6	0.2	2 %
	15.0	6.6	0.2	2 %

SECCHI DISK (m): 4.5

COMMENTS:

BOTTOM DEPTH (m): 15.5

TIME: 1240

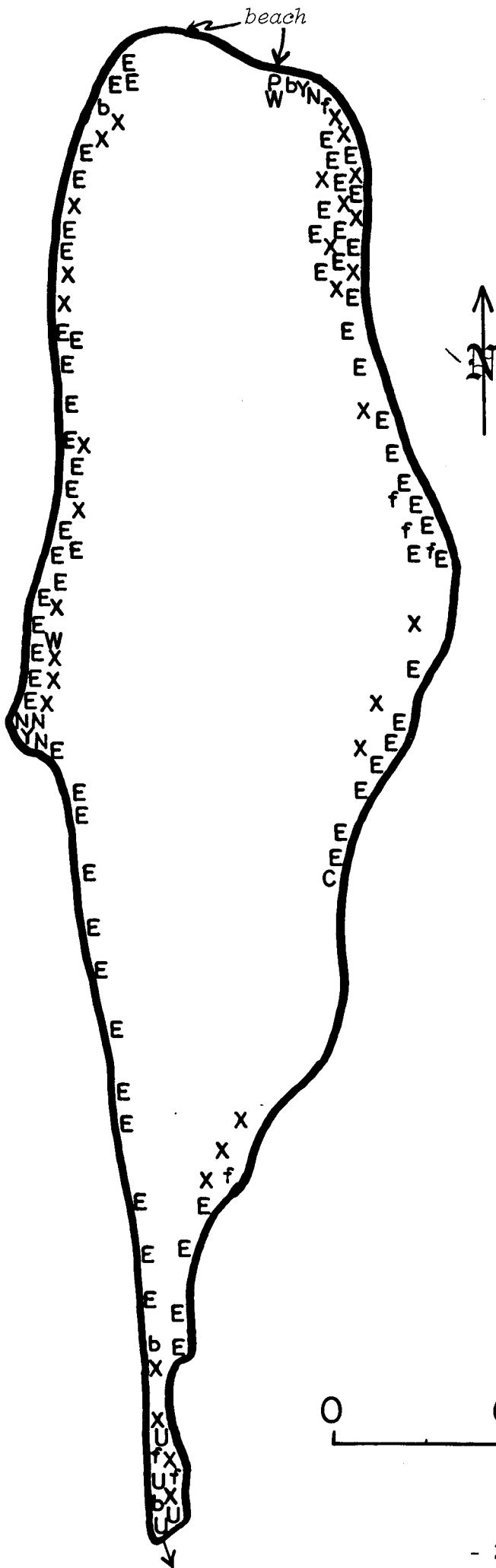
*Dissolved oxygen values are in mg/L

SWANZEY LAKE

SWANZEY

AQUATIC PLANTS

4 AUG. 1986



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